

**AMENDMENTS****In the Claims****Current Status of Claims**

1 1.(canceled)

1 2.(currently amended) The process of claim ~~38~~39, wherein the extracting fluid is selected  
2 from the group consisting of Xe, NH<sub>3</sub>, lower aromatics, nitrous oxide, ~~water~~, CO, CO<sub>2</sub>, H<sub>2</sub>O, lower  
3 alcohols, lower alkanes, lower alkenes and mixtures or combinations thereof.

1 3.(currently amended) The process of claim ~~38~~39, wherein the extracting fluid comprises a  
2 major portion of CO<sub>2</sub>, and a minor portion of a secondary fluid selected from the groups consisting  
3 of Xe, NH<sub>3</sub>, lower aromatics, nitrous oxide, ~~water~~, CO, H<sub>2</sub>O, lower alcohols, lower alkanes, lower  
4 alkenes and mixtures or combinations thereof.

1 4.(previously presented) The process of claim 39, wherein the extracting fluid is CO<sub>2</sub>

1 5.(previously presented) The process of claim 39, wherein the material-to-be-treated is a drilling  
2 fluid and the non-aqueous fluid product comprises a hydrocarbon product substantially free of  
3 contaminants, and the solids product is substantially free of hydrocarbons and other contaminants.

1 6.(previously presented) The process of claim 39, wherein the material-to-be-treated is a used  
2 oil and the non-aqueous fluid product comprises a cleaned oil substantially free of water and water  
3 soluble contaminants and substantially free of solids.

1 7.(previously presented) The process of claim 6, wherein the cleaned oil has a lower sulfur  
2 content than the used oil prior to cleaning.

1 8.(previously presented) The process of claim 39, wherein the material-to-be-treated is a  
2 hydrocarbon fuel and the non-aqueous fluid product comprises a cleaned fuel having a lower sulfur  
3 content than the hydrocarbon fuel prior to cleaning.

1 9.(previously presented) The process of claim 39, wherein the material is a hydrocarbon  
2 contaminated soil and the non-aqueous fluid product comprises a hydrocarbon product substantially  
3 free of solids, water and water soluble contaminants, the solids product comprises a cleaned soil  
4 substantially free of hydrocarbon and other contaminants, and the aqueous product is substantially  
5 free of hydrocarbon.

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38.(canceled)

39.(currently amended) A process for cleaning a material comprising the step of:

charging a quantity of a material-to-be-treated comprising water and water soluble aqueous components, a non-aqueous fluid, and solid materials into an interior of an inner tube of a tubular extraction vessel comprising: an upper portion including an outer tube, an middle tube, and ~~an~~ the inner tube; a semi-permeable membrane; and a lower portion,

charging a quantity of an extraction fluid to a plurality of interior sites of the tubular reactor until the fluid is at or above its critical point,

contacting the material-to-be-treated with the extracting fluid under conditions of temperature and pressure sufficient to maintain the fluid at, near or above its critical point to produce a treated material comprising the extraction fluid, the non-aqueous fluid and the solid materials;

concurrently, removing water and water soluble components via the semi-permeable membrane into the lower portion of the tubular extraction vessel to produce an aqueous product,

forwarding the treated material ~~and the extraction fluid~~ into a first separation vessel comprising an interior, a treated material inlet, a fluid outlet and a solids outlet having a venturi valve,

removing the solids materials from the first separation vessel through the venturi valve to a solids storage container to produce a solids product,

removing a fluid comprising the non-aqueous fluid and the extraction fluid from the first separation vessel and forwarding the fluid to a second ~~separator~~ separation vessel having a fluid level sensor ~~to produce a non-aqueous fluid product~~,

separating the fluid in the second separation vessel into a used extraction fluid and a non-aqueous fluid product, and

transferring the non-aqueous fluid product to a fluid storage container.